



GRADUATE PROGRAM

ADDIS ABABA SCIENCE AND TECHNOLOGY UNIVERSITY

COLLEGE OF ARCHITECTURAL AND CIVIL ENGINEERING

**Problems of Time Related Claims Documentation for Local Contractors of
Central, North and South Regions of Federal Road Projects**

BY: Bethelehem Shiferaw

**A Thesis Submitted to College of Architecture and Civil Engineering in
Partial Fulfillment of the Requirement of Master of Science in Civil
Engineering (Construction Technology and Management).**

Advisor

Wubishet Jekale (Dr. Ing.)

November, 2017

APPROVAL PAGE

This Msc thesis is entitled to **“Problems of Time Related Claims Documentation for Local Contractors of Central, North and South Regions of Federal Road Projects”** has been approved by the following examiners in partial fulfillment of the requirement for the degree of Master of Science in construction technology and management.

Date of Defense: _____

Principal Advisor

1. <u>Dr. Ing Wubishet Jekale</u>	_____	_____
	Signature	Date

Members of the Examining board:

1. <u>Dr. Girmay Kahssay</u>	_____	_____
External Examiner	Signature	Date
2. <u>Dr. Habtamu Hailu</u>	_____	_____
Internal Examiner	Signature	Date
3. <u>Mr. Simon G/Egziabeher</u>	_____	_____
Head, Civil Eng`g Department	Signature	Date
4. <u>Dr. Brook Abate</u>	_____	_____
Dean, College of Architecture and Civil Engineering	Signature	Date

I, the under signed, certify that I read and hear by recommend for acceptance by Addis Ababa Science and Technology University a thesis entitled **“Problems of Time Related Claims Documentation for Local Contractors of Central, North and South Regions of Federal Road Projects”** in partial fulfillment of the requirement for the degree of Master of Science in construction technology and management.

Dr. Ing Wubishet Jekale

Principal Advisor

ABSTRACT

This study was conducted on time related claims documentation, which are vital documents that are used as evidence for claims associated with delay or in time completion of projects. In this respect, this study's objective was to uncover the major problems of time related claims documentation of local contractors of central, north and south regions of federal road projects. For this, both questionnaire survey and selected case studies were conducted. Accordingly, interpretation and discussion were made on the basis of results.

The study was undertaken in 13 contractors who have road constructions projects in the central, south and north regions of the country. Accordingly, the research came up with the following findings. In knowing the importance of having all the required time related claims documents and the way they used it are a problem in some contractors though there are some encouragements in some other contractors. Regarding to the proper management of time related claims documents, the respondents attested as they use all communication means in general and formal writing, and verbal means of communications in particular. The qualities of records are conformance, inaccessible and inaccuracy. The major problems in all five stages of claims process commonly associated with not having standard format for claims submission, record satisfactory evidence to convince other parties, documents accessible to identify a claim, computerized documentation and assigned skilled staff. To address these problems this study further provides recommendations on how to improve the existing situations, the contractors need to appreciate the importance of having and applying all time related claims documents, the contractor needs to set rules and procedures for communication methods on the project site and also need to assign a person to supervise the methods of communication and also the contractors need to review record keeping system time to time.

Key Words: Federal road contractors, claims, time, documentation, communication, quality recorded.

TABLE OF CONTENTS

ABSTRACT	iii
TABLE OF CONTENTS.....	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
LIST OF APPENDICES.....	ix
Chapter 1. INTRODUCTION.....	1
1.1 General Background	1
1.2 Statement of the Problem	2
1.3 Objective of the Research	2
1.4 Research Questions	2
1.5 Scope and Limitations	3
1.6 Significance of the Research	3
1.7 Thesis Organization.....	3
Chapter 2. LITERATURE REVIEW	4
2.1 Claims	4
2.1.1 Definition of Claims.....	4
2.1.2 Types of Claims.....	4
2.1.3 Contents of Time Related Claims	6
2.1.4 Requirement for Valid Time Related Claims	6
2.1.5 Time Related Claims Administration	7
2.1.6 Causes of Time Related Claims.....	8
2.1.7 Proposed Solutions to Minimize Time Related Claims	9
2.2 Documentation	11
2.2.1 Documentation for Support of Construction Claims	13

2.2.2	Documenting Time Related Claims	15
2.2.3	Construction Documents for Time Related Claims	16
2.2.4	Time Related Claims Document Management	26
2.2.5	FIDIC View in Time Related Claims Documentation.....	30
2.2.6	Problems of Time Related Claims Documentation	31
Chapter 3. RESEARCH METHODOLOGY		34
3.1	Introduction	34
3.2	Research Design.....	34
3.3	Method of Data Collection.....	35
3.3.1	Primary Data Sources	35
3.3.2	Secondary Data Sources.....	36
3.4	Data Analysis Method	36
Chapter 4. RESULTS AND DISCUSSION		37
4.1	Introduction	37
4.2	Types of Time Related Claims Documents	37
4.3	Time Related Claims Document Management	41
4.4	Problems of Contractors during Time Related Claims Documentation	44
Chapter 5. CONCLUSION AND RECOMMENDATION		51
5.1	Conclusion	51
5.1.1	Introduction	51
5.1.2	Types of Time Related Claims Documents	51
5.1.3	Time Related Claims Document Management	51
5.1.4	Problems of Contractors during Time Related Claims Documentation	52
5.2	Recommendation	52
5.2.1	Types of Time Related Claims Documents	52

5.2.2	Time Related Claims Document Management	52
5.2.3	Problem and Challenges are Faced by Contractors during TRCD	53
REFERENCES		54

LIST OF TABLES

Table 4.1: Respondents' status on the importance of TRCDs.....	32
Table 4.2: The use of time related claims documentation.....	33
Table 4.3: The use of communication methods by contractors.....	35
Table 4.4: The quality of time related claims documents.....	36
Table 4.5: Problems at the identification stage of TRCD.....	37
Table 4.6: Problems at the notification stage of TRCD.....	37
Table 4.7: Problems at the examination stage of TRCD.....	37
Table 4.8: Problems at the documentation stage of TRCD.....	37
Table 4.9: Problems at the presentation stage of TRCD.....	37
Table 4.10: Problems at the negotiation stage of TRCD.....	37

LIST OF FIGURES

Figure 2.1: Claims Administration Process	8
Figure 2.2: Stages of Claims Process	26

LIST OF APPENDICES

Appendix A: Sample Survey Questionnaire and Accompanying Letter

Appendix B: Sample Standard Formats for Notice Writing

Appendix C: ERA Sample Format for Minutes of Meeting

Appendix D: ERA Sample Format for Monthly Status Report

Appendix E: ERCC Sample Formats for Time Related claims document

Appendix F: AMGC Sample Formats for Time Related claims document

LIST OF ABBREVIATION

FRP	Federal Road Project
ERCC	Ethiopian Road Construction Corporation
AMGC	Aster Mengistu General Contractor
TRC	Time Related Claims
TRCD	Time Related Claims Documentation
TRCDs	Time Related Claims Documents
TRCDM	Time Related Claims Document Management
DM	Document Management
CM	Communication Management
PC	Project Communication
RM	Record Management
RFI	Request for Information
TIA	Time Impact Analysis
DIR	Daily Inspection Report
MSR	Monthly Status Report

ACKNOWLEDGEMENT

Our gratitude goes to Almighty God who gives us inspiration and courage to start and complete this research study.

My special thanks go to my advisor Dr. Wubishet Jekale for his valuable and continuous guidance, assistance and coaching the way of doing research, and providing sufficient material throughout this research. He always encourages, motivates me and provides direction to work strongly and shape this dissertation successfully. I am also grateful to ECWC Transport Infrastructure Construction, Aster Mengistu General Contractor and Ato Ayalew Ejigu for his valuable direction during the period of this research.

My special thanks also go to my mother, Tesfaneshe Estifanos, for her assistance and help till I complete this research. I thank all my families, friends, peoples and organizations that have helped me complete my study and this thesis research successfully.

Lastly, I would like to thank the Ethiopian Road Authority for fully sponsoring my study and Addis Ababa Science and Technology University for providing the training successfully.

Chapter 1. INTRODUCTION

1.1 General Background

Construction is one of the largest and challenging industries in Ethiopia. Due to different changes and executed in the site (which depends on different site conditions), construction industry is unique in nature unlike other industries. Among all valid and critical processes that being followed by any given construction firm/company, documentation of relevant documents is very important in a construction project because it provides a memory of the project. It is the only contemporaneous record of what was actually happening at any given time during the course of the project.

Documentation is the framework on which a claim is built without it there is no contemporaneous evidence to prove a claim and thus little chance of a fair outcome. Of all the required claims documentations, proper handling and management of time related claims documents are one of the factors that enhance the smooth implementation of contractual construction projects and a mean to reduce the possible conflicts that may arise as a result of improper documentation and time related cases.

In realization of the centrality of the issue (management of claims documents), this research has exerted its utmost effort in identifying and analyzing the major problems of time related claims documentation through looking at the different experiences and practices of local federal road contractors and pertaining to the type the documents they retained, their feedback mechanisms and other related issues. Literature review conducted, data collection by questionnaires was made, cases were studied and document assessments were made. Samples for the study were randomly selected from different projects. In this thesis, a descriptive statistical method was used for the analysis of the data that provides a general overview of the results so that some kind of discussions and conclusions were made on the results.

1.2 Statement of the Problem

Construction projects are often fraught with having claims might be made for loss and expense, extension of time, liquidated damages and so on . However, nowadays claims due to extension of time are common on the construction projects. Similarly the claimant also face problem with having full documents of time related claims when claims arises, due to the recorded is not found, ineffective record keeping, inaccurate recorded information and inaccessibility of documents, Hence it is important to have properly structured and handled time related claims documents which help as evidence at the time of claims. Based on this ground, this research paper focuses on the problems of time related claims documentation of contractors.

1.3 Objective of the Research

General Objective

- To investigate problems of time related claims documentation of central, south, north regions of local federal road contractors.

Specific Objectives

- To assess the types of time related claims documents developed or recorded by the contractors.
- To assess how contractors mange time related claims documentation processes.
- To identify the basic problems faced by the contractors during time related claims documentation.

1.4 Research Questions

This study addressed the following research questions:

- What types of time related claims documents are developed or recorded by the contractor?
- How contractors manage the time related claims documents?

- What are the major types of problems faced by contractors during time related claims documentation?

1.5 Scope and Limitations

Scope: the study focuses on time related claims documentation of local contractors located at the central, north and south region of federal road projects.

Limitations: in the study process, the following limitations were observed

- The difficulty to gather the planned data from the sampled contractors for the fact that the research found projects of the contractors in a very dispersed geographic areas;
- Of the sampled contractors, some contractors were not willing to show the required data on time related claims document on transparent manner;

1.6 Significance of the Research

The relevance of this research is helped to know baseline status of local contractors of central, north, south regions of federal road projects on the practice and management of time related claims documents along with associated problems.

1.7 Thesis Organization

The thesis is organized into five chapters. The first chapter depicts the basic research information as an introduction part of the research. Chapter two form literature review of the thesis that provides a general understanding of previous studies and theories related to the research area. This will also provide some bases for the analysis of the main issues. The chapter is followed by research design and methodology presented in the chapter three. The fourth chapter result and discussion was made with the analysis of findings while the last chapter draws conclusion of the research and provides some recommendations for improvement in the sector.

Chapter 2. LITERATURE REVIEW

2.1 Claims

2.1.1 Definition of Claims

According to Bonaventura et al, (2015) construction projects are uncertain and complex, involve a wide variety of business parties, extend over a lengthy period of time and require highly specialized designs, detailed plans and specifications, high-risk construction methods, effective management, skillful supervision and close coordination. Thus, claims are common in such projects, further delaying completion times and causing cost overruns. Moreover, construction contracts are extremely long, complex sets of documents, which are often not well understood by the parties and lead to differing interpretations by different parties.

A study by Asem et al, (2002) tried to present that claims is a request by the contractor for an extension of time and/or additional cost and can evolve into a disagreement that may not be amicably resolved by the parties concerned.

As Wideman, (1990) try to present, a contractor's claims may be defined as a request for additional compensation (cost and/or time) on account of a change in the terms of the contract

Fortunately, the increasing use of standard documents and specifications has gone a long way to facilitate the expression of requirements, and thereby avoid disputes through misinterpretation. So three simple rules can be promulgated to avoid making claims:

- Know exactly what the contract requires
- Do what the contract requires, but without interference
- Don't do anything else, without proper documentation

2.1.2 Types of Claims

According to Wubishet, (2006) Claims can be associated with three major categories that can be understood as the different types of claims. These are:

Cost Related Claims

Claims associated with monetary compensation where either of the following entitlements or penalties is entertained:

- Additions requiring rate adjustments
- Price Changes
- Provisional sum adjustments
- Default by Contracting Parties: Claims associated with non performances of contractual obligations
- Delay in Payment Certificates
- Suspensions and Terminations

Time Related Claims:

Time requirement plays a key role to both employer and contractor in any construction contract. And time has always been said to be as important as cost. It is always in the best interest of the owner and contractor to have the work completed within the scheduled time and budget. Hence, the provision of time aspect in every construction contracts has been an important aspect and is to be treated with care by all contracting parties in order to avoid any time related problems and/or disputes. Contract documents and in particular the standard form of General Conditions would normally contain various clauses that are related to the matters of time.

Claims associated with delay or in time completion of projects where either of the following six entitlements or penalties are subjected to:

- Time Extension only
- Liquidated Damages only
- Time Extension and Cost Compensation
- Concurrent Compensations
- Bonus
- Reliving of Obligation

2.1.3 Contents of Time Related Claims

According to Scott, (1992) claims documents the following points to be included in time related claims documents:-

Introduction: - describing the parties to the claims, giving brief details of the project and those elements that have given rise to the claim. The introduction should conclude with a statement to the effect that the contractor is seeking a time extension.

Contract details: - including the form of contract employed with the appropriate amendments, the date of possession of site, date for completion, date of practical completion and rate of liquidated damage, etc. More importantly, all those express terms of the contract upon which the contractor is to rely and any implied terms that may be promoted should be set down. Any common law principles such as misrepresentation should be highlighted

A narrative: - describing in chronological order those elements which give rise to the claim. It will be necessary to link this back to the contract details showing how, when and where the breach occurred. All written applications for reimbursement of direct loss and/or expense should also be identified here and referred to and contained in appendices at the back of the submission. The contractor includes a certain impact documents such as schedule of events.

Quantum: - this section will include all those calculations of required extension time of construction with all necessary evidential being referred to an appendix.

Appendix: - each document or series of documents should be given an appendix reference that will coincide with the relevant reference in the narrative, etc...

2.1.4 Requirement for Valid Time Related Claims

According to Abera, (2005) valid claims are referred to those claims that the contractor is entitled to. All parties involved in the contract (particularly the owner) should be aware of the causes of valid claims.

Valid claims are:-

- Timely notice was given,

- The claim is not late,
- Contract procedures were followed,
- Proper records were kept
- The claims establish on valid entitlement under the contract,
- Adequate information is available or provided to verify the claim or support its quantification.

2.1.5 Time Related Claims Administration

According to Wubishet, (2006) time related claims administration process is understood as the process for the time compensation of any damage, and/or changes resulted during the implementation of construction projects.

Time related claims administration process can generally fall into three major functions (Figure 1.1). These included **Claim Submittal**, **Claim Processing** and **Claim Enforcement**.

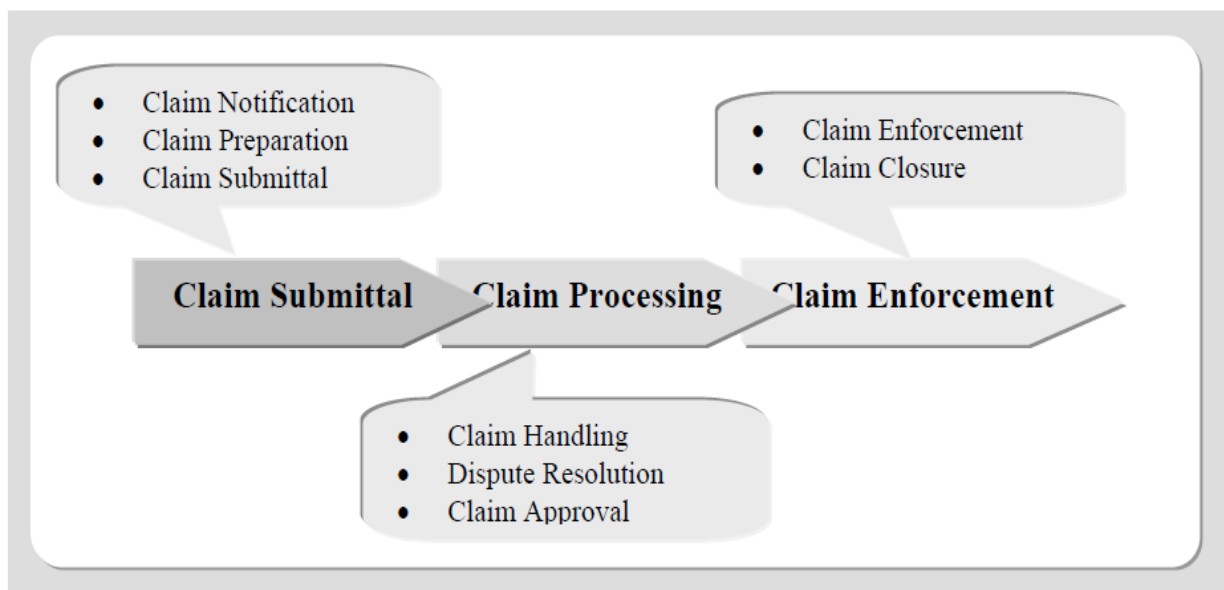


Fig. 2.1: Claims Administration Process (Source: Wubishet, 2006)

Claim Submittal: This is a process by which the claimant is obliged to claim within a reasonable period of time (28 – 30 days in most contracts) followed by her/his preparation for all substantial documents and legal aspects supporting hers/his entitlements for an official submittal. This constituted that a claim has been filed for its consideration if all these three

sub processes called Claim Notification, Claim Preparation and Claim Submittal are fully undertaken by the claimant.

Claim Processing: This process initiates checking of the claim whether, it is legally or contractually supported or not; documents provided are valid and reliable to substantiate the claim for consideration or not; and overall procedural requirements have been followed or not. After verifying the validity of the claim proper computations and evaluations will be carried out to present the proposed compensation for the contractual parties the claim is applicable to. Generally the sub process that undertakes these requirements is termed as Claim Handling.

The contractual parties will pass through different dispute resolution system depending on their acceptance over the proposed compensation varying from the simplest mediation by the consulting engineer to the final court ruling in the form of litigation. Once the contractual parties agree on the final outcome of the claim process then they have reached into a stage where the claim is approved.

Claim Enforcement: This is a stage where the approved claim is enforced and finally becomes a closure therefore two sub processes are included. The claim enforcement process will entertain the inclusion of the approved claim into payment certificates where their enforcement is due.

Once this compensation or entitlement is due in accordance to the approved claim and its enforcement requirements, then it is concluded for its closure. In order to account for such an administration process contracts provide claim clauses within their provisions in their conditions of contract.

2.1.6 Causes of Time Related Claims

As Samantha, 2002 indicated Construction time related claims can be caused by a number of factors. Understanding what causes construction time claims is the first step in avoiding them. In general, construction time claims occur because of the following:

- Delays in construction and completion of the contract.

- Delays in the delivery and supply of materials.
- Weather which slows down or prevents construction from proceeding.
- Owner requested changes.
- Changes which occur not at the request of the owner.
- Poor management and administration of the construction site.
- Site conditions which differ from those expected.
- The work becomes impossible to perform.
- Insufficient plans and specifications.
- Failure of any one party to disclose information which is material to the construction.
- Conflicts between those involved in the construction of a project.
- Termination of the contract by the owner or the contractor.
- Acceleration of the work.
- Failure to adequately schedule and coordinate the work.
- Failure of parties to cooperate with each other in the performance of the work.

2.1.7 Proposed Solutions to Minimize Time Related Claims

According to Long, (2013) the majority of the research that was conducted on claims, solutions was always sought as an attempt to minimize claims to the extent possible. The proposed areas for improvement can generally be divided into the following categories:

- Contract Management
- Planning and Scheduling
- Documentation and Record Keeping

Contract Management

It has been pointed out by Nemr, (2001) that most contractors are not aware of the contents of their contracts prior to the bidding process and even more contractors are not aware of their contracts requirements even during the execution phase. It is not before a claim case arises that attention is given to contract interpretation. Hence, the researcher call for the contractor site managers to make themselves aware of the contract contents and to make a checklist that incorporates all contractual requirements at various stages of the project. Moreover, during

the process of reviewing the contract itself, the interpretation process has become an area requiring special attention.

Planning and Scheduling

As Long, (2013) indicated planning and scheduling is an essential tool for the improvement of the status of claims management for contractors. The use of scheduling as a monitoring and detection tool, as it can be used to monitor the progress of a project, and at the same time, to detect any deviations in the productivity and/or costs that may result from a claim matter.

Documentation and Record Keeping

As Long, (2013) stated adequate documentation and record keeping is probably one of the most common problems facing the proper management of claims. This problem stems from the lack of weight that the contractor site representatives give to documentation management. Some of the most common documentation problems are the result of neglect of notification procedures within the contract, the carrying out of extra work without written authorization, change orders not being described and tied to a contract notice (as described in the previous section), minutes of meeting not being commented on in writing, letters not being answered when objected to, important telephone conversations not being confirmed in writing and non contractual verbal instructions by the owner not being officially validated .

Successful claims avoidance results from prudent management activities. The following activities during the construction phase of a project are essential for both the owner's team and the contractor's team to mitigate claims and ensure the overall success of the project:

- Read and understand the contract documents
- Implement a document control system to capture code and file documents
- Define clearly the roles and responsibilities of each party
- Allocate risks to the party best able to control those risks and provide equitable rewards for assuming risks
- Develop performance criteria to communicate expectations and to measure each party's achievements
- Coordinate activities involving several parties

- Implement cost, schedule and quality control procedures
- Hold periodic progress reviews and inspections
- Maintain open communications throughout the project

2.2 Documentation

According to Troy, (2014) documentation is very important in a construction project because it provides a “memory” of the project. It is the only contemporaneous record of what was actually happening at any given time during the course of the project. Documentation is the framework on which a claim is built; without it, there is no contemporaneous evidence to prove a claim and, thus, little chance of a fair outcome. Project documents kept on a contemporaneous basis provide a permanent record which allows the detailed reconstruction, review, and analysis of events and actions of the project.

As Long, (2013) stated adequate documentation is vitally important to the contractor interested in survival. First, it provides the information needed to effectively bid, plan and construct the work. Second, it provides the data needed to analyze and successfully resolve a construction claim. Contractors and owners who are able to monitor the job in such a way as to anticipate potential claims as they occur will be in the best position to prove these claims successfully after arbitration or litigation begins. More importantly, fair settlement of the claim outside the courtroom is often possible because of specific data provided by document management, cost accounting and monitoring procedures that support a detailed schedule and damages analysis. In the courtroom, a presumption of reasonableness arises in favor of such records that satisfies the claimant’s burden and shifts it to the other party, who must then prove that the records are unreasonable and or inaccurate.

As Rick, (2003) stated it is crucial to keep in mind the following documentary evidence during the course of a project, which will help to support or defend a claim should one arise:

- **Keep all bid documentation and record any pre-contractual agreements,** representations and understandings in writing and ensure they are in the contract or can be relied upon at a later stage.

- **Ensure that a fully signed written agreement is in place** before commencing work on a project. While oral agreements are generally enforceable, written ones are easier to prove.
- **Read and be familiar with all contract terms**, especially the notice provisions. Failure to provide notification of a potential claim could preclude a party from bringing its claim.
- **Keep all project correspondence.** It is often helpful to organize project correspondence according to each key party and whether the correspondence is incoming or outgoing. For example, it is important to remember that in order to litigate a delay claim, it is generally necessary to reconstruct the project in detail on a daily basis.
- **Record all relevant conversations and send follow up correspondence.** Parties may proceed on a project for months based on a particular representation or understanding, only to find out later during litigation that the other party denies everything. Where there is no response to correspondence, a court may find that a failure to respond affirms what was said in the letter.
- **Take pictures or videos at all stages of the project.** Nothing can help a judge or lawyer more to understand a problem or deficiency on a project than an illustrative picture of it.
- **Keep all plans and drawings** and ensure that you have accurate records of all amendments or addendums.
- **Make sure a project diary is kept** along with diaries for key personnel. Diaries should record: 1) the weather; 2) manpower, visitors and contractors on site; 3) key deliveries; and 4) any notable event such as problematic or hidden site conditions or events that may cause delay or affect productivity. Ensure that entries express facts, rather than opinions.
- **Maintain an as-planned schedule** and regularly update it with an as-built schedule. There are several computer programs available to schedule and track progress. The end product of a proper scheduling exercise is a plan that should tell a contractor or owner what sequence work should be done in, when it should start, what work has to be completed first, when successor activities should start, and when it should finish.

Having an accurate schedule for a project and regularly updating it will provide a valuable tool for tracking and recording delay and the impact of that delay.

- **Record all key events**, especially ones that may lead to a claim, and specifically record: 1) when the event occurred; 2) what it was; 3) who noticed it; 4) the projected impact it may have on cost and time; 5) whether notice was given and to whom; and 6) response to notice.
- **Record all change orders and claims for extras** and when they were submitted for approval, and separate those that are approved from those that are not. A contractor who has failed to get approval for a change order should always diligently express and protest their ongoing concerns writing. When doing so, the contractor should adhere to the contractual notice requirements. Parties should also be aware of the ability to give notice that they are performing under protest.

2.2.1 Documentation for Support of Construction Claims

According to DeVries, (2013) documentation is the most important component of detecting a potential claim and providing or disproving its impact. Documentation system meets the following objectives:

- To provide an organized and efficient means of measuring, collecting, verifying, and quantifying data reflecting the progress and status of operations on the project with respect to schedule, cost, resources, procurement, and quality.
- To provide standards against which to measure or compare the work progress and status. Examples of standards include CPM schedules, control budgets, procurement schedules, quality control specifications, and construction working drawings.
- To provide an organized, accurate and efficient means of converting the data from the operations into information. The information system should be realistic and should recognize (a) the means of processing the information (e.g., manual versus computer), (b) the skills available, and (c) the value of the information compared with the cost of obtaining it.
- To report the correct and necessary information in a form which can best be interpreted by management, and at a level of detail most appropriate for the individual managers or supervisors who will be using it.

- To identify and isolate the most important and critical information for a given situation, and to get it to the correct managers and supervisors, that is, those in a position to make the best use of it.
- To deliver the information to them in time for consideration and decision making so that, if necessary, corrective action may be taken on those operations that generated the data in the first place.

According to Keen and Fernandez, (2012) in addition to maintaining a neat, up to date and well organized record keeping system as part of the day to day routine, all contractors must be aware that some aspect of the construction project could end up in a claim situation. Construction claims can be virtually impossible to support without proper project documentation. Further, field personnel must be properly trained to thoroughly understand what, how and when to document the files.

In a time related claims situation, good documentation is imperative in order to:

- Convince the other party of:
 - a. Contractual entitlement to a contract adjustment
 - b. The damages or losses as quantified are real and reasonable
 - c. Which party caused the problems based on the demonstrated by the project documents and
- Obtain an equitable adjustment of the contract price and contract time
- Avoid arbitration and litigation

For claim to be effective, it must meet the requirements of entitlement, causation and reasonable damages. Facts supporting each portion of the claim must be validated with documentation that may be discoverable if a claim proceeds to arbitration or litigation.

Contemporaneous project the documentation can establish the facts supporting a cause and relationship between the alleged actions or inactions of other party and the damages incurred.

2.2.2 Documenting Time Related Claims

According to Troy, (2014) once a potential claim or dispute has been identified, the value of developing and preserving supporting documentation cannot be overstated. Disputes are very often won or lost on the strength of a contractor's documentation. Even before a claim is identified, it is important that the contractor keep good records of its activities on the project. Certain records, such as daily project logs, will usually constitute critical evidence in establishing entitlement to a claim. A detailed project log can document levels of manpower, the progress of the work on a particular date, and any impacts that the contractor may encounter on the project. Obviously, a detailed project log prepared contemporaneously with the work performed will have greater weight as evidence than the verbal testimony of a project manager or foreman months or even years after the events in question. Moreover, if the claim will be presented to a fact finder from the construction industry, it is likely that the contractor's credibility will be enhanced if it maintains detailed and accurate records, particularly if the opposing party's documentation is weak. Of course, the above factors apply to all project documentation that might be used to support a claim, including estimates, take-offs and bid documents, submittals, original and as-built schedules, manpower loading reports, correspondence and e-mails, and other materials kept in the normal course of a project.

As Rick, (2003) stated in addition to maintaining good records of daily activities and of the project in general, the contractor must be both proactive and reactive in developing claim documentation. With respect to proactive documentation, the contractor should take immediate steps to create a record of potential claims as they arise. Where the contractor determines that it will be subject to unforeseen expense, delay, acceleration or disruption due to the fault of another, such concerns should be placed in writing and provided to all proper parties. If feasible, the contractor should also photograph and/or videotape problems on site, identify potential witnesses, and summarize the activities of other trades affecting its work.

Turning to reactive documentation, it is essential that the contractor respond promptly in writing to any communication concerning alleged facts or positions that may impact the viability of its claim. Where the owner, general contractor, construction manager or other

relevant project participant disputes the claim or indicates that the problem has been addressed, the contractor must respond in a timely manner. A failure to provide a prompt response could represent a waiver of the claim under certain contract provisions or, at a minimum, is viewed as evidence that the claim was not a continuing issue.

To effectuate the above recommendations, a simple flow chart or summary of the claims process should be prepared at the start of each project and provided to all of the contractor's management personnel. In particular, deadlines and other strict requirements which could result in a waiver of the contractor's right to assert a claim need to be highlighted. Further, it would be helpful to have in place a written protocol which incorporates standard procedures for the proper handling of potential and/or asserted claims. For example, when a potential claim is identified it would be advisable to immediately create a file to compile all communications and project documents which have any relationship to the claim. Further procedures might include a list of proactive actions, such as developing evidence through photographs or videotaping, creating a list of individuals with knowledge of the claim and strict deadlines for communicating notice of the claim and/or the contractor's position. Periodic training of management personnel with respect to appropriate claim handling procedures would also be instrumental in creating an ongoing awareness of best practices when confronted with potential claims.

While the above recommendations are presented in the context of a contractor seeking compensation for extra work, these considerations are equally important for the contractor to effectively dispute to other project participants confronted with any questionable requests for additional compensation or an extension of the schedule. Regardless of the party or the nature of the dispute, however, there is little question that the project participant who acts in a proactive manner and properly documents its position will hold a distinct advantage over an opposing party who fails to timely recognize and document issues as they arise.

2.2.3 Construction Documents for Time Related Claims

➤ Baseline Program

According to Ahmed et al, (2014) baseline program is considered the solid base for any future claim. Baseline program represents the contractor's approach to execute the contract scope

prior to the project commencement date showing the planned productivity rates for all types of work which is considered also the non-impacted benchmark for any future claim.

Preparation of baseline program

According to Ahmed et al, (2014) preparation of the baseline program starts with the identification of the activities required to execute the work in accordance with the project work breakdown structure and contract plan and specification. Once all activities have been defined, the interrelationships between the activities should be determined in accordance with the sequence of work and construction logic in order to finish the work by the contract completion date. The number of activities and interrelationships depends on the level of detail required by the contract documents and increases based on the complexity of the project. The next step in producing the baseline program is to calculate the durations required to execute each activity on the network. There are many factors which should be considered during this process such as, quantities, contractor's norms, availability and quality of manpower, machinery resources, weather conditions, and site conditions as well as other constraints. All resources should be loaded and allocated to their relevant activities in terms of man-hours, machine-hours and costs in order to produce the overall manpower and machinery histograms that show the total planned number required to perform the contract scope over the contract period. This will be considered the non-impacted benchmark to be used for comparison purpose in case of any future claims for delay, acceleration or disruption. In addition, the contractor has the right to assume any missing information, but all assumption made should be qualified clearly in the schedule narrative that is submitted along with the schedule.

After time estimation and loading the resources, the mathematical calculation using CPM will be conducted to determine the chain of interrelated activities through the network from the project start to its completion date. The early dates and critical path will be defined during forward calculation while the late dates and floats will be calculated during the backward calculation. Normally, the planning team conducts this process many times because the completion date derived from the first run may not meet the contract completion date. Therefore, the planning team should recalculate the durations of the critical path activities and accordingly the related resources in order to obtain the required date.

After completion of a baseline program or as-planned program, and before submission to the employer for review and validation, the contractor planning team should check the following points to make sure that the baseline program is reliable and can be used as solid base/benchmarks for any future claim;

The FIDIC, (1995) stated clearly in clause 8.3 that “the Contractor shall submit a detailed time program to the Engineer within 28 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works] ”. And “unless the Engineer, within 21 days after receiving a program, gives notice to the contractor stating the extent to which it does not comply with the Contract, the contractor shall proceed in accordance with the program, subject to his other obligations under the Contract. The Employer’s Personnel shall be entitled to rely upon the program when planning their activities”.

➤ **Planned Manpower and Machinery Resources**

Swarna and Vikranth, (2012) stated that the project man power planning primarily focuses on determining the size of project work force; it’s structuring into functional groups and workers teams, and scheduling the manpower recruitment to match the task requirement. This process chiefly involves identifying the trades or the skills required, establishing productivity standards to determine the number of worker needed to perform a given job in the specified time, data wise forecasting of workers requirements for accomplishing the project work and finally organizing the planned work force into operating work-teams having assigned programmed tasks.

Equipment planning for a project aims at identifying construction task to be undertaken by mechanical equipment, assessing the equipment required, exploring the equipment procurement options and finally, participating in the decision making for selecting the equipment. Planned manpower and machinery resources have to be submitted with the Baseline schedule and its revisions

➤ **Program Revisions**

According to Ahmed et al, (2014) program revisions which indicate changes and its required resources and the impact on the contract completion date. By taking into consideration the

span of construction projects, the frequent scope changes and the delays which can occur during the execution phase, the approved baseline program becomes misleading and needs to be revised from time to time to incorporate the changes, revise logic and sequence of work and to incorporate the mitigation measures. The interval of the program revision depends mainly on the volume of changes received during the period and validity of the construction sequence of work along with the current site conditions and constraints.

The revised program should be developed from the latest updated schedule including all the delays, scope changes to that point of time and the proposed mitigation measures. In result the project completion date may remain the same or go beyond the contractual completion date.

In the first case, i.e. if the project completion date remains same, there is no problem on the approval of the revised program from the engineer and/or the employer. The approved revised program will replace the approved baseline program and will be the new benchmark which will be the base for any future claims for extension of time and/or disruption. It will also be used for the progress updates, monitoring delays and any other scope changes, etc.

However if the project completion date extends beyond the contractual completion date, the revised program will not be approved by the engineer/employer until the related extension of time claim is approved. The engineer could give conditional approval only for progress monitoring purpose or sometimes delay the approval requesting additional information and substantiations. In general, the approval of extension of time claim by the employer is a very time consuming process and normally takes four to six months and sometimes the extension of time will be granted only at the time of expiry of the original contractual completion date. During this time, there is no approved revised program to monitor the delays although the revised program is being updated only to monitor the progress. Hence any analysis of delays in the extension of time submittals becomes debatable and may lead to arbitration.

The contractor will face problems in obtaining the extension of time in this process. Thus in order to avoid or minimize the conflicts in measuring delay, we recommend to update the baseline programs simultaneously in the case that revised programs are approved for progress monitoring purpose only. The contractor should submit the baseline and revised program updates to the employer or his representative to see exactly how the delays are affecting the

project execution. Although it is difficult to measure the delays on the baseline program updates (when there is revised program in force with current logic and sequence of work), this will help the contractor to ease out some of the problems until the revised programs are approved.

➤ **Notice Letters**

Under FIDIC, (1995) Clause 20.1 the Contractor must give notice of any claim, whether for time or money, not later than 28 days after the Contractor became aware, or should have become aware, of the circumstances giving rise to the claim. If he does not comply with this rule, he will not receive an extension of time, and he will not be entitled to additional payment, and the Employers discharged from all liability in connection with the claim.

According to Ahmed et al, (2014) some of the key factors required by standard contract form notice provisions are as follows:

- Notice must be in writing.
- Written notice must be served to a specific designated party.
- Notice must be given as soon as the notifying party becomes aware of the circumstances of an impact event or condition.
- Notice must be given within a defined time period.
- Notice for time and additional cost impacts must be given if both are deemed involved.
- Details of the actual or anticipated effects of any impacts, if practicable,
- Estimates of the extent of any time and cost impact.
- Supporting documentation must be submitted within specified time frame (possible second notice period).
- Specific schedule and work activities affected. and
- Cause, effect and length.

Some of sample notice letters are appendix B at the back:

➤ **Request for Information**

Under construction management plan, (2009) request for information (RFI) is a tool to resolve and document these gaps, conflicts, or subtle ambiguities, preferably early on in the construction process, to eliminate the need for costly corrections. RFI is intended for requesting clarifications and interpretations of contract documents due to apparent inconsistencies, errors or omissions in contract documents, and due to unanticipated existing conditions.

According to construction management plan, (2009) RFIs classified into three groups as follows:

Category 1 – Major Clarifications (high importance): Additions and changes made to the contract documents necessary for the contractor to construct the project. These requests will be responded to within a period of 3 working days if marked urgent.

Category 2 – Minor Clarifications (normal importance): Information already on the drawings such as dimensions and inconsistencies between drawings and specifications. These requests will be responded to within a period of 3 to 5 working days.

Category 3 –Clarifications for Contractor’s Convenience (low importance): These include requests for variations from the contract documents, reconfirmation of contract documents, corrective action for contractor’s field errors and defective work. These requests will be responded to with a period of 10 working days.

The contractor is responsible for categorizing each RFI, and ensuring a prompt, clear response. If the RFI requires additional documentation, it will be returned to the contractor with a response indicating contractor will be required to resubmit with additional data.

➤ **Daily Diary**

Under construction management plan, (2009) daily diaries are kept to provide a complete narrative picture of the project, covering both the normal work processes and anything unusual that might have occurred on the project. The diary is used to document work progress, site conditions, labor and equipment usage, and the contractor’s ability (or inability)

to perform his/her work, and can provide valuable information necessary to accurately reconstruct the events of the project in preparation of a claim. It is a collection point for many of the project's pertinent facts arranged in any chronological order. It may show: how questions were answered, how problems were solved, and unusual conditions pertaining to working days charged. In maintaining these reports, project personnel must be consistent in recording the events and activities on the job, particularly those relating to claims or potential claims. Daily diaries are the key to claims avoidance and mitigating damages. It is also available for reference long after the work is complete.

Failure to record an event carries with it the implication that the event did not occur or was insignificant and threatens the credibility of the entire log.

- The diaries and daily or other reports are meant to supplement each other and do not need to contain identical information.
- The diaries and other reports are public record and may be used in case of litigation.
- Include only factual information in them.
- Minimize personal remarks, which may not be factual, about operations or personnel of the Contractor, Agency, or other organization. Such remarks may be used to demonstrate the inspector was hostile and did not behave in a manner consistent with good faith.
- All entries should be clear, neat, and most importantly, legible.
- Summarize key points of any discussion of work activities with the Contractor.
- Be specific.

➤ **Minutes of Meetings**

According to DeVries, (2013) a well executed meeting ends with prompt and clearly documented Meeting Minutes. A skilled and successful Project Manager always has meeting minutes prepared and distributed within 24 hours of having a meeting. Project meeting

minutes not only summarize what was discussed and agreed upon during the meeting but also include a list of action items. It is important that the action items are documented and distributed quickly so the assignees have enough time to follow up on their action items or ask for clarification.

ERA, (2012) sample format of minutes of meetings are appendix C at the back:

➤ **Daily Inspection Report**

According to Long, (2013) daily inspection reports filled out by the superintendent, foreman, or project manager are also common records to document resources used on a project.

According to construction management plan the content of the daily inspection report is to be used in conjunction with the diary. As such, the Prolog template for daily reports should only include items that relate to work progress and not conversations or other transactions. Typical actions that are to be included are presented below:

- Report number and the date of the report.
- Day of the week.
- Weather conditions. In the event of an overnight storm, the field conditions at the start of the day shall be noted.
- Name of Contractor and each subcontractor on the job that day.
- Number of manual workers at the site.
- Number of superintendents and foremen at the site.
- Visitors at the site, including names, employers, time in, and time out.
- Identity, size, and type of major equipment at the site each day. If idle, indicate reason.
- Log of work commenced; status of work in progress; and log of new work started. The location and description of the work and which subcontractor is performing the work.
- The extent and reason for delays encountered.
- Attach uploaded file containing digital photographs if relevant.

➤ **Monthly Status Report**

According to construction management plan, (2009) monthly status report will summarize the condition of the project. Required information includes:

- Financial status to include budgeted cost of work scheduled, actual cost of work performed, cost variances, and total encumbered cost on open purchase orders.
- Descriptions of the results of the cost variance analysis.
- Discussion of the project's critical issues.
- Discussion of the work completed this month.
- Discussion of the work to be completed next month.
- Graphic depiction of the project's S curve.
- Graphic depiction of the project's summary schedule.

ERA, (2012) sample format of monthly status report are appendix D at the back:

➤ **Time Impact Analysis**

According to Ahmed et al, (2014) time impact analysis is a process which shows the potential impact of the changes prior to carrying out the changes. When change orders, delays, or relevant issues occur, a time impact analysis/delay analysis should be prepared to document and record the facts and circumstances pertaining to each delay event qualifying the delay and the impact on the project completion date. The time impact analysis usually includes the current updated schedule, excusable delays for which time extensions may still be pending, job conditions encountered, the progress achieved up to the point in time when the present delay occurs and the mitigation action taken by the contractor. The analysis should also include the pertinent facts associated with the proof required to support the delay issue.

The following procedure is proposed by Ahmed et al, (2014) to be followed to illustrate a mechanism for preparation of a time impact analysis and documenting the impacts.

Proposed Checklist for Time Impact Analysis

- Study the scope of the change/risk event, and the extent of the delay encountered.

- Issue a notice of delay to the employer once the contractor comes to know about the change/risk event. Submittal of such notice/s should be within the allowed period stipulated in the contract clauses.
- Review all reference materials, such as appropriate contract clauses, construction drawings, sketches, specifications, vendor data, regulatory and administrative codes, field directives, correspondence, and cost estimates.
- Prepare an accurate description of the changed condition or the delay encountered.
- Identify the contracting parties who are responsible for such change/risk event.
- Identify all contracting parties who are affected by the direct or indirect delay and request any participation or documentation assistance that may be necessary.
- All verbal instructions or instructions received vide emails should be recorded and confirmed by the employer in writing.
- Determine which activity or activities on the project program is or are potentially impacted by the added, delayed, changed work or any other risk event.
- Review the program and determine the scheduled start and finish dates for all affected activities.
- Establish the record-keeping systems and form contacts with key project staff, identify and document the facts associated with the change and/or delay issue.
- Update the project program, as of the date just before the change or the risk event. In case of any delay exercised due to contractor's risk events, the contractor is obliged to recover such delay totally or partially if possible. The contractor should describe in detail the action taken to mitigate or recover its delays.
- Prepare a written narrative of the overall program analysis and derive a time impact position to be taken for each delay. Factual references to contract clauses, program information, drawings, specifications, sketches, industry standards, minutes of meetings, technical queries and any written or oral communications should be properly identified to support positions and ultimate conclusions. Weekends, holidays, and any recovery periods involved in the calculations should be noted.
- Monitoring of three categories of activities; critical path (because those are the activities that will directly cause delay), near-critical path (because those are the activities that will be critical and will be delayed in the next period), and non-critical

path (because those are the activities that will stack up at the end of the job and will negatively impact the costs and quality at the same time). Therefore, the impact of the change on the use or absorption of available float for the non-critical activities should be analyzed and reported with each program update. This will give an early notice that another path is near-critical and another delay is expected.

- Formal documentation of each situation is encouraged. This can be accomplished by preparing a written time impact analysis to support each change order proposal and time extension request.

2.2.4 Time Related Claims Document Management

According to Fleming, (2009) time related claims document management is the management of records generated during construction. DM procedures are needed to handle reporting of construction progress including:

- Site records that include a daily log of site activities, occurrences, weather, equipment, personnel, and communications.
- Inspection Report of contractor's work and practices observed by the CM's construction inspectors covering construction work performed, instructions given or received, unsatisfactory conditions, delays encountered, manpower and equipment, or other problems.
- RE's weekly Construction Report of all items of importance, conferences with the contractor or other parties, agreements made, special notes regarding equipment or organization, labor conditions, weather or other causes of possible delays, and other matters that have a bearing on the history of the job.

➤ Communication Management for Time Related Claims

According to Peruma et al, (2001) communication is commonly defined as “the imparting or interchange of thoughts, opinion, or information by speech, writing, or signs” Communication can be perceived as a two-way process in which there is an exchange and progression of thoughts, feelings or ideas towards a mutually accepted goal or direction.

Project Communication

According to Priyadharshini and Satheesh, (2015) project communication is the exchange of project-specific information with the emphasis on creating understanding between the sender and the receiver. PC is the responsibility of everyone on the project team.

- Effective Communication

Effective communication means that the information is provided in the right format, at the right time, and with the right impact. Effective communication is one of the most important factors contributing to the success of a project.

- Efficient Communication

Efficient communication means providing only the information that is needed.

Methods of Communication

As Wusuah, (2012) try to present there are various ways and methods of communicating information in the construction industry. Although a vast majority of information is exchanged verbally and delegated, most data is exchanged in written format either as hard copy or electronically. Even if information is exchanged verbally such as through project meetings and instructions, this information is well documented and stored for future reference. Scope of work and details of construction are communicated by means of drawings, contract documents, addenda and specifications. Contracts are commonly issued when one entity passes down work to another. Unfortunately, miscommunication is a common occurrence in construction when work is passed down from one entity to another.

For ease of classification, the forms and methods of communication in the construction industry are outlined below;

- Formal Writing - This takes the form of Project Plan, Project charter, Specifications and Reports.
- Formal Verbal – Presentation and speeches fall under this category.

- Informal Writing – Examples of informal written methods of communication include memos, e-mail, notes, etc.
- Informal Verbal – meetings, stakeholders and conversations are categorized under informal verbal method.

➤ **Records Management for Time Related Claims**

Records Distribution, Storage, and Retrieval

According Fleming, (2009) records management controls the distribution, storage, and retrieval of project records in both hard copy and electronic form. Working copies of records can be retrieved by records management for use by project staff. Records management should securely store original copies and ultimately dispose of the records according to the Agency's and the project's records retention schedule.

The project manager should not allow project staff to keep their own files of original project documents or correspondence. RM should maintain the project's active and historical records and files in order to provide efficient access and complete audit trails of the current status and record of revisions to the project design and baseline documentation and associated correspondence.

Record management correspondence control system should provide convenient access to records and make certain the records are secure and the appropriate level of confidentiality maintained. The system should be set up to comply with the Agency's administrative, legal, and historical record requirements and provide an audit trail and documentation of project activities.

Record management can also be used to establish an accessible project library of technical documents, standards, baseline documents, industry codes and standards, studies, and other general information pertaining to the project.

Quality of Records

According to Tilley et al, (1997) the quality of time related claims documented has a major influence on the overall performance and efficiency of construction projects. When time related records quality is considered, a number of criteria determine the level of quality:

- Accessibility – easily accesses when required by other person.
- Accuracy - free of errors, conflicts and inconsistencies.
- Completeness - providing all the information required, establishing logs of records or standard reference lists and coding.
- Conformance - meeting the requirements of performance standards and statutory regulations.

Managing the Records

As Wideman, (1990) try to present on his paper some simple rules help us for managing the records themselves as follows:

- Determine what records are to be kept, and how. Establish logs of the records, so that they can be found, referred to and/or followed up as required. Well organized contractors establish standard reference lists and coding for all their contracts. This greatly facilitates managing, analyzing and comparing contracts.
- Once the records have been identified, ensure that they are in fact set up, maintained and used for managing the job.
- Review the record keeping system from time to time, because records have a habit of growing in unexpected ways - like half the correspondence showing up under miscellaneous, and the other half under general. In addition, some records may become obsolete or redundant, and should be discontinued. Unnecessary record keeping can waste a lot of time and money.
- Records also take up space and equipment. Determine the useful life of the different components, and take a systematic approach to record disposal.
- Take steps to ensure accuracy, reliability and hence credibility. Unreliable records can be quite useless, as well as a waste of money, and possibly even detrimental.

2.2.5 FIDIC View in Time Related Claims Documentation

The Fédération Internationale Des Ingénieurs-Conseils/ Federation Institute of consultant Engineers (FIDIC) was formed in 1923 for the main reason to uphold and maintain the rights of each party involved within any construction contract. Ethiopian Roads Authority made its Road construction contracts with the Contractors base on FIDIC form of contract regulations.

FIDIC clauses with relevance to time related claims documentation (FIDIC, 1995)

Clause 1.7 Documents on site

The Contractor shall keep on the Site one complete set of the documents forming the Contract, the Construction Documents, Variations, other communications.

Clause 1.8 Communications

Wherever provision is made for the giving or issue of any notice, instruction, consent, approval, certificate or determination by any person, unless otherwise specified such communication shall be in writing and shall not be unreasonably withheld or delayed

Clause 8.3 Extension of time for completion

If the Contractor intends to apply for an extension of the Time for Completion, the Contractor shall give notice to the Employer's Representative of such intention as soon as possible and in any event within 28 days of the start of the event giving rise to the delay, together with any other notice required by the Contract and relevant to such cause. The Contractor shall keep such contemporary records as may be necessary to substantiate any application, either on the Site or at another location acceptable to the Employer's Representative, and such other records as may reasonably be requested by the Employer's Representative. The Contractor shall permit the Employer's Representative to inspect all such records, and shall provide the Employer's Representative with copies as required.

Within 28 days of the first day of such delay (or such other period as may be agreed by the Employer's Representative), the Contractor shall submit full supporting details of his application. Except that, if the Contractor cannot submit all relevant details within such period

because the cause of delay continued for a period exceeding 7 days, the Contractor shall submit interim details at intervals of not more than 28 days (from the first day of such delay) and full and final supporting details of his application within 21 days of the last day of delay.

Clause 20.1 Procedure for claims

If the Contractor intends to claim any additional payment under any Clause of Claims these Conditions or otherwise, the Contractor shall give notice to the Employer's Representative as soon as possible and in any event within 28 days of the start of the event giving rise to the claim.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Employer's Representative. Without admitting the Employer's liability, the Employer's Representative shall, on receipt of such notice, inspect such records and may instruct the Contractor to keep further contemporary records. The Contractor shall permit the Employer's Representative to inspect all such records, and shall (if instructed) submit copies to the Employer's Representative.

Within 28 days of such notice, or such other time as may be agreed by the Employer's Representative, the Contractor shall send to the Employer's Representative an account, giving detailed particulars of the amount and basis of the claim. Where the event giving rise to the claim has a continuing effect, such account shall be considered as interim. The Contractor shall then, at such intervals as the Employer's Representative may reasonably require, send further interim accounts giving the accumulated amount of the claim and any further particulars. Where interim accounts are sent to the Employer's Representative, the Contractor shall send a final account within 28 days of the end of the effects resulting from the event.

2.2.6 Problems of Time Related Claims Documentation

According to Bakhary et al, (2014) problems associated with the time related claims management process in Malaysian construction industry. It concentrates on the 5 stages of claim process; identification, notification, examination, documentation, presentation and negotiation.

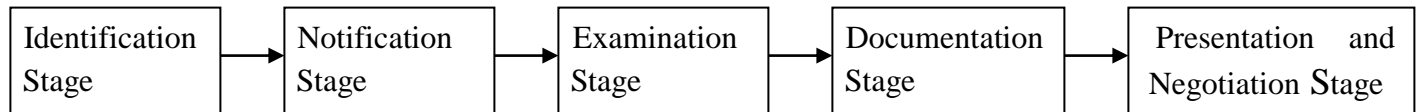


Fig. 2.2: Stages of Claims Process (Source: Bakhary, 2014)

Identification

- Lack of awareness of site staff to notice a claim.
- Insufficient contract knowledge by site staff.
- Insufficient time due to high workload.
- Poor communication between site and head office.
- Inaccessibility of documents used for identifying a claim.
- Ambiguous line of responsibility as to who should detect a claim.

Notification

- Inaccessibility of supporting documents needed for notice.
- Poor communication/instruction to proceed with submitting the notice.
- Insufficient time to thoroughly prepare the notice due to high workload.
- Ambiguous responsibility as to who should prepare the notice.
- Prescribed time in the contract is too short.
- No standard form used for preparing the notice.

Examination

- Unavailability of records used to analyze and estimate the potential recovery.
- Insufficient time to thoroughly examine claim due to high workload.
- Poor communication to gather the required information to analyze a claim.
- Lack of legal/contract to establish the base on which the claim stands.

Documentation

- Verbal instruction by owner.
- Some information/instruction is not kept in writing.
- Ineffective record-keeping system.
- Inaccurate recorded information.
- Inaccessibility of documents when needed.

- Overdue in retrieving the needed document.
- No standard form used to record the data during construction.
- No computerized documentation system.
- High cost associated with retrieving required information.

Presentation

- Inaccessibility of relevant documents to submit along with the claim.
- Insufficient skilled staff in preparing a claim submission.
- Insufficient time to thoroughly prepare claims due to high workload.
- No standard format of a claim submission.

Negotiation

- Unsatisfactory evidence to convince other parties.
- Poor negotiation skills.
- Adversarial relationship with other parties.
- Inadequate time due to high workload.

Chapter 3. RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the choice of research methodology for this research. The focus of the research is to investigate the problems of time related claims documentation of local contractors of central, south and north region of federal road projects. Under federal road project there are 44 contractors who are currently managing and implementing 83 projects in different parts of the country (ERA, 2017). Of these, 23 (52%) of them are local contractors where as the remaining 21(48%) of them are foreign contractors. Regarding their project implementation site, 13 local contractors have been implementing projects in the central, south, north regions of the country.

To determine the sample size, purposive sampling method was taken. Using this method, the research purposely sampled 13 local contractors who are currently managing and implementing 18 projects in the central, south, north region of the country with the aim to look at their time related claims documentation.

3.2 Research Design

The strategy followed in this research was first started with problem identification which has been done through unstructured literature review, archival study and informal discussion with colleagues and professionals in the sector; and then the research design was formulated.

Then data and information sources were determined based on the formulated research design. On the basis of the data and information sources the research instruments were decided; and available documentary sources relevant to the research were reviewed. The review includes books, journal and articles, internet sources and archival document. The document search was mainly intended to collect values of time related claims documentation and problems faced by local federal road contractors.

Finally, after an in-depth review of literature, a questionnaire was designed and distributed to sampled contractors and case studies used on some randomly selected projects to triangulate the facts that obtained by the questioner. Upon obtaining the desired data, checking and

sorting of data has been done. The data were then analyzed for cross-checking the validity and conformity of the information obtained through the overall research work. This was followed by thorough discussions in order to draw a conclusion and to forward recommendations based on the findings of the study.

3.3 Method of Data Collection

The approach to data collection should be based primarily on the nature of the investigation and on the type of data and information that are required. This could be met by employing a different type of methods to collect applicable data. This included questionnaires and case studies. The required data was collected from both primary and secondary sources.

3.3.1 Primary Data Sources

Two research instruments were used for the collection of relevant information. To identify and rank the major problems of time related claims documentation of selected contractors in Federal Road construction projects in Ethiopia, a questionnaire survey and case study were carried out. The questionnaire survey the respondents were randomly selected from federal road projects who have been involved in the road construction. Thirteen questionnaires were distributed to thirteen targeted contractors who's currently managing and implementing eighteen projects in the central, north, south regions of the country. Among those who had received the questionnaires, 12 of them (92.3%) of the sampled contractors responded accordingly.

For case studies the study were on some selected projects which used in for this research to substantiate the findings that obtained by questionnaires. The nature of the cases focuses on one aspect of a problem or practice, the conclusion drawn may not be generalized, but rather related to one particular event. For this reason, case studies under this research are used to supplement the findings obtained through questionnaire. Contractors whom I targeted for his particular case studies were located at a distance of 280Km around Welayita Sodo, in the southern region of Ethiopia.

The two contractors which I considered for my case studies are Ethiopian Roads Construction Corporation and Aster Mengstu General Contractor and Water Works and have been

engaging in the construction of double surface treatment asphalt road project with 33.7 Km and 37.5 Km length respectively. The client of these two projects is Ethiopian Roads Authority.

3.3.2 Secondary Data Sources

Secondary data were collected through the review of available literature on the topic of time related claims documentation, published and unpublished reports on time related claims documentation and assessment of contractors' time related claims documentation and management.

3.4 Data Analysis Method

The research attempted to touch most of the relevant problems under the study that enables to appreciate all the concerned issues under the subject area. A descriptive statistical method has been used for the analysis of the data which provides a general overview of the results in order that some kind of interpretations and discussions can be made on the results. Moreover, reviewed literature was also used so as have bases for my investigation and analysis.

Chapter 4. RESULTS AND DISCUSSION

4.1 Introduction

This chapter is structured according to research objective and presents the findings and discussion of the questioner and case studies, which focuses on the problems of time related claims documentation of local contractors of federal road project. The assessment result are organized under three main parts; types of time related claims documents used by the contractor, time related claims document management and problems faced by contractors during time related claims documentation.

4.2 Types of Time Related Claims Documents

To understand the perspective and knowledge of the contractors about the importance of using all the required time related claims document and their degree of practicing it in their respective project site, the respondents were asked to fill the developed questionnaires. Table 4.1 shows the result of the contractors' conformation on the importance of having TRCDs in their respective project site.

Table 4.1: Respondents' status on the importance of TRCDs

No	Documents	Frequency Checked					Grade	Rank
		Very important	Important	Fairly important	Less important	Not important		
1	Baseline program	7	5				55	1
2	Planned manpower and machinery resources	5	7				53	3
3	Program revisions	5	7				53	3
4	Notice letters	5	5	2	1		53	3
5	RFI	6	6				54	2
6	Daily diary		6		6		36	6

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

No	Documents	Frequency Checked					Grade	Rank
		Very important	Important	Fairly important	Less important	Not important		
7	Minutes of meetings		6	2	4		38	5
8	Daily Inspection Reports	1	4		7		35	7
9	Monthly Status Reports	1	8	3			46	4
10	Time impact analysis	4	5		3		46	4

(Grade is given by multiplying the number of responses with the corresponding credits

Very important= *5, important= *4, fairly important= *3, less important= *2 and not important= *1)

As per the witness made by the respondents, baseline program document is considered as the most important document followed by request for information, notice letters, program revision, and planned manpower and machinery. In contrast, around 50% of the respondents perceived daily dairy, keeping minutes of meetings, daily inspection report, monthly status report and time impact analysis documents as less important time related claims documents for them.

Time related claims documents can make or break a time claims. For that reason, it is imperative that the parties consistently and accurately document what is happening on the project schedule. Complete records will be necessary to defeat delay claims. If the documents are complete and well organized, the claimant's will spend less time preparing and documenting the claim, thus reducing the cost of presenting the claim.

Besides knowing their perspective towards the importance of having the above mentioned time related claims documents, the respondents were asked to what extent they apply and use it in their respective project site. The table hereunder (4.2) summarizes the frequency at which the contractors use these documents.

Table 4.2: The use of time related claims documents

No	Documents	Frequency Checked					Grade	Rank
		Very often	Often	Rarely	Very rarely	Not used		
1	Baseline program	9	3				57	1
2	Planned manpower and machinery resources	6	6				54	2
3	Program revisions	6	4	2			52	3
4	Notice letters	3	6	3			48	4
5	RFI	9	3				57	1
6	Daily diary			3		9	18	9
7	Minutes of meetings		2	6	4		34	7
8	Daily Inspection Reports		3		9		30	8
9	Monthly Status Reports	1	8	3			46	5
10	Time impact analysis		5	4	3		38	6

(Grade is given by multiplying the number of responses with the corresponding credits
Very often= *5, often= *4, rarely= *3, very rarely= *2 and not used= *1)

According to the respondents, all sampled contractors used baseline program, RFI, program revision, and planned manpower and machinery resource documents in proper way and to the expected level (very often) in their respective projects. On the other side, daily dairy, minute of meetings, daily inspection report and time impact analysis used very rarely on their project site.

With the intention to validate and triangulate the above mentioned results, case studies were facilitated. While observing the contractors, requested each of them to give us their consents so as to make a case study. However, two of them agreed to share their practices in the form of case testimonies.

Case Study-1: Experience of Ethiopian Road Construction Corporation

ERCC is one of the sampled contractors that have road project entitled “Mazoria – Durame – Durgi road project” that stretched from mazorai to Hadero. The construction was started August 25, 2015. The construction status exists at 53.8%. Based on observation, this contractor has been using all the time related claims documents such as have baseline schedule, planned manpower and machinery resources, program revisions, notice letters, RFI, daily progress reports and monthly progress reports in their project site (Appendix E).

Case Study-2: Aster Mengistu General Contractor and Water Works

AMGC is another sampled contractor which has project in the extension of Mazoria to Hadero. The construction of this road project stretched from Hadero Durgi. The construction was started in Oct 07, 2011. In this project, observed that, the contractor has been using all the required time related claims documentation such as baseline schedule, planned manpower and machinery resources, program revisions, notice letters, RFI, minutes of meetings, daily progress reports and monthly progress reports to the expected level (Appendix F).

Time related claims documents are baseline schedule, planned manpower and machinery resources, program revisions, notice letters, RFI, daily inspection report, monthly status report, daily diary, minutes of meetings and time impact analysis.

As we infer from the findings (questionnaire, case study and personal observation), among the listed time related claims documents, almost all respondents appreciated the importance of having the baseline program, RFI, notice letters, program revision and planned manpower and machinery as a document for time related claims and used them in their respective project site. In contrast, as a limitation, contractors under consideration has failed to use the daily dairy, monthly status report minute of meeting, daily inspection report and time impact analysis. However, daily dairy, monthly status report minute of meeting, daily inspection report and time impact analysis are the most important documents which use to support other documents as evidence during time related claims arises. The documents Provides the data needed to analyze and successfully resolve a time related claims. Contractors who are able to monitor the job in such a way as to anticipate potential time claims as they occur will be in the

best position to prove these time claims successfully after arbitration or litigation begins. More importantly, fair settlement of the time claims outside the courtroom is often possible because of specific data provided by document management and monitoring procedures that support a detailed schedule.

4.3 Time Related Claims Document Management

➤ Communication Management for Time Related Claims

There are various ways and methods of communicating information in the construction industry. For ease of classification, the forms and methods of communication in the construction industry are formal writing, formal verbal, informal writing and informal verbal.

This research has tried to look at the type of communication methods that are used by the sampled contractors and how often they used it. The respondents were asked to rate how often/frequency/ each of the sampled contractors use the communication methods is summarized hereunder in table 4.3

Table 4.3: The use of communication methods by contractors

No	Communication method	Frequency Checked					Grade	Rank
		Very often	Often	Rarely	Very rarely	Not used		
1	Formal writing	8	4				56	1
2	Formal verbal	2	4	5	1		43	2
3	Informal writing			3	4	5	22	4
4	Informal verbal		4	6	1	1	37	3

(* grade is given by multiplying the responses with the corresponding credits)

According to the respondents, the contractors conformed as they have been using the formal verbal and writing communication methods in their day to day operation and used informal verbal in an often manner.

Case Study-1: Ethiopian Road Construction Corporation

Pertaining to the use of communication methods, the observation result in this organization confirmed that the contractors under this case study used formal writing and informal verbal while they are implementing the project.

Case Study-2: Aster Mengistu General Contractor and Water Works

As per the observation, the same is true in case of AMGC, which they use both formal writing and informal verbal.

A project communication management includes the processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval, and ultimate disposition of project information. The forms and methods of communication in the construction industry are formal writing, formal verbal, informal writing and informal verbal.

As clearly mentioned under the finding parts (questionnaire result), among the identified communication methods, the respondents have been using formal writing and formal verbal for their project. On the other hand, constrictors considered under my case studies attested as they used informal verbal in addition to formal writing. From the legal perspective, using formal verbal and informal verbal as a methods of communications have no legal ground to use it as a supportive evidence document during any dispute, However, formal writing are legal official notes used to share information orderly and follow set rules , procedures or standards and are not personal.

➤ **Records Management for Time Related Claims Documentation**

Managing records quality of time related claims document has a major influence on the overall performance and efficiency of construction projects. When time related claims documentation quality is considered, a number of criteria determine the levels of quality are accessibility, accuracy, completeness and conformance.

Accordingly the respondents were asked to rate frequency of the quality of time related claims documents summarize below table 4.4

Table 4.4: The quality of time related claims documents

No	Quality of documents	Frequency Checked					Grade	Rank
		Very High	High	Medium	Low	Negligible		
1	Accessibility	1	4	7			42	2
2	Accuracy		5	4	3		38	3
3	Completeness		5	4	3		38	3
4	Conformance	1	8	3			46	1

(* grade is given by multiplying the responses with the corresponding credits)

From the results obtained, the quality of time related claims documents are meeting the requirements of performance standards and statutory regulations and easily accesses when required by other person.

Case Study-1: Ethiopian Road Construction Corporation

In ERCC project site the time related claims documents meet the requirement of performance standards and statutory regulations and also more or less providing the information required. However the documents are not easily accesses when required by other person and free of errors conflicts.

Case Study-2: Aster Mengistu General Contractor and Water Works

In this project site the time related claims documents meet the requirement of performance standards and statutory regulations. However the documents are not easily accesses when required by other person, free of errors conflicts and providing all the information required.

Records management is managing the records to determine what records are to be kept and how. Establish logs of the records, so that they can be found, referred to and/or followed up as required. Well organized contractors establish standard reference lists and coding for all their contracts. This greatly facilitates managing, analyzing and comparing contracts. Once the records have been identified, ensure that they are in fact set up, maintained and used for managing the job.

The quality of managing records of TRCD has a major influence on the overall performance and efficiency of construction projects, which is associated with accessibility, accuracy, completeness and conformance.

As we infer from the result of the questioner the respondents quality of the time related claims documents meet the requirements of performance standards and statutory regulations and easily accessible when required by other person were selected by the respondents.

However, from the case studies the quality of the time related claims documents were meet the requirements of performance standards and statutory regulations but not easily accessible when required by other person, free of errors, conflicts and providing all the information required.

4.4 Problems of Contractors during Time Related Claims Documentation

Problems associated with the time related claims process concentrates on the 5 stages of claims process:-

- Identification stage
- Notification stage
- Examination stage
- Documentation stage
- Presentation and negotiation stage

Table 4.5: Problems at the identification stage of TRCD

No	Identification stage	Frequency Checked					Grade	Rank
		Very High	High	Medium	Low	Negligible		
1	Lack of awareness of site staff to notice a claim		3	8	1		38	4
2	Insufficient contract knowledge by site staff		6	5	1		41	2
3	Insufficient time due to high workload	3	3	6			45	1

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

No	Identification stage	Frequency Checked					Grade	Rank
		Very High	High	Medium	Low	Negligible		
4	Poor communication between site and head office		3	9			39	3
5	Inaccessibility of documents used for identifying a claim		4	7	1		39	3
6	Ambiguous line of responsibility as to who should detect a claim		2	7	3		35	5

(* grade is given by multiplying the responses with the corresponding credits)

From the results insufficient time due to high workload, insufficient contract knowledge by site staff, poor communication between site and head office, inaccessibility of documents used for identifying a claim were the main problems for TRCD at identification stage selected by the respondents.

Table 4.6: Problems at the notification stage of TRCD

No	Notification stage	Frequency Checked					Grade	Rank
		Very High	High	Medium	Low	Negligible		
1	Inaccessibility of supporting documents needed for notice		5	4	3		38	2
2	Poor communication/instruction to proceed with submitting the notice		2	8	2		36	3
3	Insufficient time to thoroughly prepare the notice due to high workload		5	4	3		38	2
4	Ambiguous responsibility as to who should prepare the notice		2	7	3		35	4
5	Prescribed time in the contract is too short			9	3		33	5
6	No standard form used for preparing the notice	3	6	3			48	1

(* grade is given by multiplying the responses with the corresponding credits)

Table 4.6 summarizes respondents response to problems for TRCD at notification stage due to there was no standard form used for preparing the notice, inaccessibility of supporting documents needed for notice, poor communication/instruction to precede with submitting the notice were the main problem pointed out.

Table 4.7: Problems at the examination stage of TRCD

No	Examination stage	Frequency Checked					Grade	Rank
		Very High	High	Medium	Low	Negligible		
1	Unavailability of records used to analyze and estimate the potential recovery	1	9		2		45	1
2	Insufficient time to thoroughly examine claim due to high workload		4	8			40	2
3	Poor communication to gather the required information to analyze a claim		4	6	3		40	2
4	Lack of legal/contract to establish the base on which the claim stands	1	2	5	4		36	3

(* grade is given by multiplying the responses with the corresponding credits)

As can be observed, the result from respondents the main problems for TRCD at examination stage is unavailability of records used to analyze and estimate the potential recovery, insufficient time to thoroughly examine claim due to high workload and poor communication to gather the required information to analyze a claim.

Table 4.8: Problems at the documentation stage of TRCD

No	Documentation stage	Frequency Checked					Grade	Rank
		Very High	High	Medium	Low	Negligible		
1	Verbal instruction by owner		3	1	6	2	29	7
2	Some information/instruction is not kept in writing		4	1	6	1	32	6
3	Ineffective record-keeping system	0	4	6	2		38	5
4	Inaccurate recorded information	1	3	6	2		39	4
5	Inaccessibility of documents when needed	1	6	4	1		43	3
6	Overdue in retrieving the needed document	3	4	4	1		45	2
7	No standard form used to record the data during construction		2	5	1	4	29	7
8	No computerized documentation system	5	4	2	1		49	1
9	High cost associated with retrieving required information		2	3	3	4	27	8

(* grade is given by multiplying the responses with the corresponding credits)

Table 4.8 summarizes respondents' response to problems for TRCD at documentation stage due to there was no computerized documentation system, overdue in retrieving the needed document and inaccessibility of documents when needed were the main problem and challenges selected by the respondents.

Table 4.9: Problems at the presentation stage of TRCD

No	Presentation stage	Frequency Checked					Grade	Rank
		Very High	High	Medium	Low	Negligible		
1	Inaccessibility of relevant documents to submit along with the claims		4	7	1		39	2
2	Insufficient skilled staff in preparing a claims submission		2	7	3		35	4
3	Insufficient time to thoroughly prepare claims due to high workload		5	6	1		40	1
4	No standard format of a claims submission		3	7	2		37	3

(* grade is given by multiplying the responses with the corresponding credits)

Table 4.9 summarizes respondents' response to problems for TRCD at presentation stage due to insufficient time to thoroughly prepare claims due to high workload, inaccessibility of relevant documents to submit along with the claims and no standard format of a claims submission were the main problem and challenges pointed out.

Table 4.10: Problems at the negotiation stage of TRCD

No	Negotiation stage	Frequency Checked					Grade	Rank
		Very High	High	Medium	Low	Negligible		
1	Unsatisfactory evidence to convince other parties		8	3	2		45	1
2	Poor negotiation skills		1	9	2		35	3
3	Adversarial relationship with other parties		1	5	6		31	4
4	Inadequate time due to high workload		4	7	1		39	2

(* grade is given by multiplying the responses with the corresponding credits)

Table 4.10 summarizes respondents' response to problems for TRCD at negotiation stage due to unsatisfactory evidence to convince other parties, inadequate time due to high workload and poor negotiation skills were selected by the respondents.

Case study 1 In Ethiopian Road Construction Corporation

The main problems during TRCD were

- No computerized documentation system
- Insufficient time due to high work load
- No standard format of a claims submission
- No standard format for preparing notices
- Ineffective (the records not jointly recorded) record keeping
- Inaccurate record information
- Jointly recorded document not filed properly with the claims

Case study 2 In Aster Mengistu General Contractor and Water Works

In AMGC at Hadero – Durgi road project the main problems during time related claims documentation were

- No computerized documentation system
- No standard format of a claims submission
- No standard for used for preparing notices
- Inaccessibility of time related claims documents
- Jointly recorded document not filed properly with the claims

Documentation is necessary to prove both the occurrence of a condition for which compensation is due and, more critically, the damage resulting from such a condition. Ironically, when claims are not settled, it is usually the result of one party or both not having sufficiently prepared job progress and cost records.

From the result obtained from questioner and case study, respondents identified insufficient time due to high workload and contract knowledge by site staffs, poor communication between site and head offices and inaccessibility of documents as major problems in identifying claims process

At notification stage of claims process, the contractors under consideration came up with lack of standard form used for preparing the notice, inaccessibility of supporting documents needed for notice, poor communication/instruction to proceed with submitting the notice and insufficient time to prepare the notice due to high work load as major bottlenecks at this particular stage.

Examination stage is the third stage of claim process for which the contractors under consideration were asked to identify their problems. Accordingly, the contractors identified unavailability of records used to analyze and estimate the potential recovery, insufficient time to thoroughly examine claim due to high workload and poor communication to gather the required information to analyze a claim as their major constraining factors at this stage.

Documentation stage is the stage whereby the well identified, notified and examined time related claims documents will be documented. Unless we have well organized & documented files, we can't proceed with claims process. In practice, the sampled contractors identified lack of modern computerized documentation system, overdue in retrieving the needed document and inaccessibility of documents and inaccurate recorded information as their major constraining factors for not having a well documented file for claims process.

The likely hood of any contractor to present a well defined and prepared claims document depends up on the process that went through all the aforementioned stages. Besides, the respondents' contractors similarly identified insufficient time to thoroughly prepare claims due to high workload, inaccessibility of relevant documents to submit along with the claims and no standard format of a claims submission as their major constraining factors at this stage.

Negotiation stage is the stage were the contractors start negotiation with its respective clients or consultants at the time when they do have claims related issues. The outcome of this negotiation depends up on the proper and careful management of those five stages. Given this reality, the respondents were asked to identify challenges they came across at this stage. Accordingly, the respondents identified unsatisfactory evidences to convince other parties, inadequate time due to high workload and poor negotiation skills as their main constraining factors.

Chapter 5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

5.1.1 Introduction

This chapter presents conclusions from the study by combining the research results from both qualitative study (case studies and observations) and quantitative study (questionnaires) based on the objectives mentioned on section 1.3 of the introduction chapter. Accordingly, in this chapter the main conclusions for this research are summarized hereunder.

5.1.2 Types of Time Related Claims Documents

In conclusion, the sampled local contractors developed and able to maintain baseline schedule, planned manpower and machinery resources, program revisions, notice letters and RFI as document for time related claims, whereas, as a limitation, the same contractors have failed to maintain and use such records like daily diary, daily inspection reports, monthly status reports, minutes of meetings and time impact analysis as time related claims document.

5.1.3 Time Related Claims Document Management

➤ Communication Management for Time Related Claims

From the CM point of view for time related claims documents, the results shows that the local contractors under federal road projects uses formal writing, formal verbal and informal verbal methods of communication on their project site while they are not use informal writing method of communication on their project site.

➤ Records Management for Time Related Claims Documentation

From the RM point of view for time related claims documentation the results shows that those well maintained and used TRCDs met the requirements of performance standards and statutory regulations and provide all the information required, establishing logs of records or standard reference lists and coding. However, the documents were not easily accessible when required by other person and free of errors, conflicts and inconsistencies.

5.1.4 Problems of Contractors during Time Related Claims Documentation

Our findings in the claims process indicates that the contractors under consideration have commonly faced insufficient time due to high workload, insufficient contract knowledge by site staff, poor communication between site and head office, inaccessibility of documents used for identifying a claim, there was no standard form used for preparing the notice, inaccessibility of supporting documents needed for notice, unavailability of records used to analyze, estimate the potential recovery, poor communication to gather the required information to analyze a claim, no computerized documentation system, overdue in retrieving the needed document, unsatisfactory evidence to convince other parties and no standard format of a claims submission as a major problem and challenges they face during time related claims documentation.

5.2 Recommendation

Based on the findings of the research the following recommendations were made:

5.2.1 Types of Time Related Claims Documents

- In addition to having TRCDs such as baseline schedule, planned manpower and machinery resources, program revisions, notice letters and RFI the contractors need to appreciate the importance of having and applying documents such as minutes of meetings, daily inspection reports, monthly status reports, daily diary and time impact analysis in their respective project site.

5.2.2 Time Related Claims Document Management

➤ Communication Management for Time Related Claims Documentation

- Communication has to provide information in the right format, at the right time, with the right impact and providing only the information that is needed.
- Though using context specific communication methods in the projects site have its own importance in enhancing communication between actors, from the legal point of view the research recommend the contractors to use the formal writing communication methods.

- The contractor needs to set rules and procedures for communication methods on the project site and also need to assign a person to supervise the methods of communication.
- The communication methods need to be accompanied by appropriate and context specific technologies, communication system and skills.

➤ **Records Management for Time Related Claims Documentation**

- The distribution, storage, and retrieval of project records have to be both hard copy and electronic form.
- The project manager should not allow project staff to keep their own files of original project documents or correspondence. so, it can easily accessible when required by other person.
- Need to determine what records are to be kept, and how, establish logs of the records, so that they can be found, referred to and/or followed up as required.
- Review the record keeping system from time to time, because records have a habit of growing in unexpected ways. In addition, some records may become obsolete or redundant, and should be discontinued. Unnecessary record keeping can waste a lot of time and money.

5.2.3 Problem and Challenges are Faced by Contractors during TRCD

- The contractors need to give due attention for time related claims documents
- The contractors need to assign skilled staffs who have contract knowledge to document time related claims documents.
- The contractors to have good communication between site and head office.
- Supporting documents needed for time related claims have to be easily accessible when required by other person
- The contractors need to have or maintain satisfactory evidence to convince others.
- The contractors need to have standard formats which will use to prepare for time related claims documents.
- The contractors need to have standard format for time related claims submission.

REFERENCES

- Abera Bekele, July 2005. *Alternative Dispute Resolution Methods in Construction Industry: an Assessment of Ethiopian Construction Situation*, Addis Ababa University Master's Thesis.
- Azmi Bakhary, Hamimah Adnan, Azmi Ibrahim, October 2014. *A Study of Construction Claim Management Problems in Malaysia*, Faculty of Civil Engineering University Technology MARA, Malaysia.
- Bonaventura H.W. Hadikusumo and Sonam Tobgay, 2015. *Construction Claim Types and Causes for a Large- Scale Hydropower Project in Butan*.
- Communications management plan, 2009. *Project Management Doc's*, <http://www.ProjectManagementDocs.com>, 14 February 2016.
- Gannett Fleming, Inc., September 2009. *Construction Project Management Handbook*, US Department of Transportation, Washington, DC.
- Fédération Internationale Des Ingénieurs-Conseils/ Federation Institute of consultant Engineers (FIDIC), 1995. *Conditions of Contract for Design Build and Turnkey*.
- Khaled Ahmed Ali Alnaas, Ayman Hussein Hosny Khalil and Gamal Eldin Nassar, 2014. *Guideline for Preparing Comprehensive Extension of Time (EOT) Claim*.
- K.L.Scott, 1992. *Managing Contractual Claims*.
- K. Swarna Kumari and J Vikranth M.E (2012). *a Study on Resource Planning In Highway Construction Projects*, IJERA, 2(4), 1960-1967.
- M. Asem U. Abdul-Malak, A.M.ASCE; Mustafa M. H. El-Saadi; and Marwan G. Abou-Zeid, April 1, 2002. *Process Model for Administrating Construction Claims*, American University of Beirut.
- Maame Aba Wusuah Affare, September, 2012. *An Assessment of Project Communication Management On Construction Projects in Ghana*.

Matthew J. DeVries, 2013. *LEGALLY SPEAKING: Project Documentation in 2013: Having a Plan in Place for Success*, Philadelphia.

Ms. Priyadharshin NS, Mr. Satheash Kumar S, March 2015. Project Communication, International Journal of Scientific & Technology Management, 04(01).

Paul A. Tilley, Adam Wyatt and Sherif Mohamed, February 1997. *Indicators of Design and Documentation Deficiency*, Australia.

Rick McClumant , 2013. *How to Document a Construction Claim*.

R.Max Wideman, P.ENG, 1990. *Construction Claims Identification, Communication & Record Keeping*, A paper presented to a TUNS/Revay seminar.

Robert G. Keen and Ron V. Fernandez, 2012. *What and Why Project Documentation*, Toronto.

Richard J. Long, P.E, 2013. *Construction Claims Prevention*.

Richard J. Long, P.E, 2013. *Preserving Your Claim through Documentation*.

Samantha Ip, October 31, 2002. *An Overview Of Construction Claims: How They Arise and How to Avoid Them*.

Troy Vernon Sutton, 2014. *Construction Industry Documentation and Record Keeping*.

Vasanthi R Perumal and Abu Hassan Abu Bakar, 2001. *The Needs for Standardization of Document towards an Efficient Communication in the Construction Industry*, Faculty of Engineering- Hunedoara, Romania.

Waleed El Nemr, May 2001. *Management of Change Order Claims in the Egyptian Industrial Construction Sector: Analysis and Means of Improvement*, The American University in Cairo School of Sciences and Engineering.

Wubishet, 2006. *Procurement and Contract Management*.

APPENDIX

Appendix-A Questionnaire

PREFACE

I wish to thank you for your participation in this research. The questionnaire you are about to complete forms part of these research for a Master of Science in Civil engineering (construction Technology management major). This research is being done to study problem and challenges of time related claims documentation of federal road contractors.

SUGGESTIONS FOR COMPLETION OF QUESTIONNAIRE

1. Please note that your response is anonymous and will be treated in absolute confidentiality.
2. The questionnaire contains two parts.
3. Should your company or organization wish to receive a copy of the final research report, you are welcome to write to Bethelehem Shiferaw; Email:betheshiferaw@gmail.com.

Part 1

1. Name of the contractor _____

2. Name of the project _____

3. Organization's area of specialization:

☐ General Contractor

☐ Road Contractor

☐ other (Please specify)

4. Organization's/ company's category:

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

Part 2

Time related claims documents is a container of information containing written or drawn information for claims associated with delay or in time completion of projects. All the questions below will refer back to the above given definition.

1. Rate the importance and use of these time related claims document

No	Documents	Important					If your answer less important and not important why?	Use					If your answer very rarely and not used why?
		Very important	important	Fairly important	Less important	Not important		Very often	Often	Rarely	Very rarely	Not used	
1	Baseline program												
2	Planned manpower and machinery resources												
3	Program revisions												
4	Notice letters												
5	RFI												
6	Daily diary												
7	Minutes of meetings												
8	Daily inspection reports												
9	Monthly status reports												
10	Time impact analysis												

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

2. Rate the importance and use of these communication methods

N o	Communication method	Use					How do you see the legality of the communication methods?
		Very often	Often	Rarely	Very rarely	Not used	
1	Formal writing						
2	Formal verbal						
3	Informal writing						
4	Informal verbal						

3. Rate the quality of these records

N o	Quality of records	Very High	High	Medium	Low	Negligible	If your answer is low and negligible why?
1	Accessibility: easily accesses when required by other person.						
2	Accuracy: free of errors, conflicts and inconsistencies.						
3	Completeness: providing all the information required, establishing logs of records or standard reference lists and coding.						
4	Conformance: meeting the requirements of performance standards and statutory regulations.						

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

4. Rate the problem and challenges you face at identification stage

No	Identification stage	Very High	High	Medium	Low	Negligible	If your answer is very high and high why?
1	Lack of awareness of site staff to notice a claim						
2	Insufficient contract knowledge by site staff						
3	Insufficient time due to high workload						
4	Poor communication between site and head office						
5	Inaccessibility of documents used for identifying a claim						
6	Ambiguous line of responsibility as to who should detect a claim						

5. Rate the problem and challenges you face at notification stage

No	Notification stage	Very High	High	Medium	Low	Negligible	If your answer is very high and high why?
1	Inaccessibility of supporting documents needed for notice						
2	Poor communication/instruction to proceed with submitting the notice						
3	Insufficient time to thoroughly prepare the notice due to high workload						
4	Ambiguous responsibility as to who should prepare the notice						
5	Prescribed time in the contract is too short						
6	No standard form used for preparing the notice						

6. Rate the problem and challenges you face at examination stage

No	Examination stage	Very High	High	Medium	Low	Negligible	If your answer is very high and high why?
1	Unavailability of records used to analyze and estimate the potential recovery						
2	Insufficient time to thoroughly examine claim due to high workload						
3	Poor communication to gather the required information to analyze a claim						
4	Lack of legal/contract to establish the base on which the claim stands						

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

7. Rate the problem and challenges you face at documentation stage

No	Documentation stage	Very High	High	Medium	Low	Negligible	If your answer is very high and high why?
1	Verbal instruction by owner						
2	Some information/instruction is not kept in writing						
3	Ineffective record-keeping system						
4	Inaccurate recorded information						
5	Inaccessibility of documents when needed						
6	Overdue in retrieving the needed document						
7	No standard form used to record the data during construction						
8	No computerized documentation system						
9	High cost associated with retrieving required information						

8. Rate the problem and challenges you face at presentation stage

No	Presentation stage	Very High	High	Medium	Low	Negligible	If your answer is very high and high why?
1	Inaccessibility of relevant documents to submit along with the claims						
2	Insufficient skilled staff in preparing a claims submission						
3	Insufficient time to thoroughly prepare claims due to high workload						
4	No standard format of a claims submission						

9. Rate the problem and challenges you face at negotiation stage

No	Negotiation stage	Very High	High	Medium	Low	Negligible	If your answer is very high and high why?
1	Unsatisfactory evidence to convince other parties						
2	Poor negotiation skills						
3	Adversarial relationship with other parties						
4	Inadequate time due to high workload						

Appendix-B Sample Standard Formats for Notice Writing

NOTICE OF CONSTRUCTIVE CHANGE FOR ADDITIONAL WORK

Date

Addressee

Re: [Describe Problem]

Dear [Name of Designated Representative]

By field (or oral) directive [number], we were directed to perform additional work. This work is not described in, or a part of, the original plans and specifications, nor is it in any way called for by the contract documents.

To help in your planning, we submit this notice as required by our contract. The directive to perform the work constitutes a constructive change to our contract, and we will request additional compensation and additional time for performance.

We cannot tell you how much added time and construction cost to expect at this time. When we have sufficient information, we will submit a change order request for additional compensation relating to the additional direct costs and potential inefficiency, disruption, rescheduling, acceleration, overtime, over manning, stacking of trades, and dilution of supervision, cumulative impact of multiple changes, and any other impact costs as well as extended overhead and equipment costs for this increased work. We have established a separate cost code for this work.

As soon as the costs can be isolated, calculated, and the additional time necessary to perform this work quantified, we will submit a time extension request.

We assure you that we will do everything we can to minimize those costs and the necessary contract time extension.

Your cooperation in minimizing this impact will be appreciated.

Sincerely,

[Name of Project Manager]

[Name of Company]

NOTICE OF ACCESS DELAY

Date

Addressee

Re: [Notice of Access Delay]

Dear [Name of Designated Representative]

On [date], our access to [specific equipment/area] was impeded because of [cite impediments]. As you know, we have been keeping you up to date on this unexpected problem. The scheduled work that cannot be performed falls along the critical path of our work and our inability to perform work as scheduled and sequenced will necessarily affect completion of the project. We understand that access will be impaired for the next [number] days and possibly longer.

To help in your planning, we provide to you this further update. Although we are certain that you are working diligently to solve this access problem, we thought that you would appreciate knowing that the project schedule, as well as our construction cost, will necessarily be affected by this problem. We cannot tell you how much added time and construction cost to expect until the problem is solved, but we request an extension of time for each day that our access to this critical area/ equipment is denied. When we have sufficient information and know the overall extend of the delay, we will submit a request for time extension and additional compensation relating to the potential inefficiency, disruption, rescheduling, acceleration, overtime, over manning, stacking of trades, dilution of supervision, and any other impact costs as well as extended overhead and equipment costs for this delay.

We assure you that we will do everything we can to minimize those costs and the necessary contract time extension. If we can be of any help in expediting the resolution of the problem, and getting us all back on track, please let us know.

Your cooperation in minimizing this impact will be appreciated

Sincerely,

[Name of Project Manager]

[Name of Company]

REQUEST FOR TIME EXTENSION DUE TO SEVERE WEATHER

Date

Addressee

Re: [Request for a Time Extension]

[Contract No. xxxx]

Dear [Name of Designated Representative]

In accordance with [cite contract reference] which forms the General Conditions of the above referenced contract, we advise you that we have encountered unforeseeable, unusually severe weather which has delayed our performance of the work. This delay is beyond our control, and without fault or negligence on our part.

The delay has lasted for a period of _____ calendar days, from _____ through _____.

The enclosed charts of weather conditions, provided for us by the _____

Weather bureau, indicate that the [rainfall, snow, winds] experienced was excessive and of an extremely unusual nature.

We therefore, by this letter, request a time extension of _____ calendar days under the terms and provisions of the above referenced contract.

Sincerely,

[Name of Project Manager]

[Name of Company]

REQUEST FOR EXTENTION OF TIME AND ADDITIONAL COMPENSATION

[To be sent immediately after delay is encountered]

Date

Addressee

Re: [Describe Problem]

Dear [Name of Designated Representative]

We are continuing to pursue the completion of our work as rapidly as is reasonably possible under the current circumstances. We have, however, recently encountered certain delays to our performance through no fault of our own and that are beyond our control. As you know, the contract we both have signed requires that we furnish to you written notice of such delays: [check to see if contract requires notice – most contracts do]. We have continued to keep your field representatives informed of these delays and of their effect on overall job completion. You may be assured that we will seek diligently to minimize as best we can the effects of these delays on our work.

Specifically, we have been delayed in the following areas and ways:

[Description of delays, list specific activities on the schedule]

Accordingly, we hereby request an extension of at least [number] days to our contract completion date to take into consideration the above delays. Once the full impact of these delays is realized, we will forward to you another letter updating and finalizing our time extension request.

These delays have also had a serious effect on the cost of performance. They have required additional time for the performance of our work along with additional costs for supervision, overtime, disruption, overhead, equipment rentals, and productivity losses for our field labor.

Accordingly, this letter is to inform you that we will request additional compensation for all costs resulting from these delays, disruptions, and interferences which have been imposed on us through no fault of our own. When we have sufficient information, we will submit a request for additional compensation relating to the costs for this delay

If we can be of any help in expediting the resolution of these problems, please let us know.

Your cooperation in minimizing this impact will be appreciated.

Sincerely yours,

[Name of Project Manager]

[Name of Company]

NOTICE OF CHANGE DIRECTIVE

Date

Addressee

Re: [Describe Problem]

Dear [Name of Designated Representative]

We were given instructions by [name] on [date] to [describe work added or changed].

This change directive is for work not within the scope of our present contract and we, therefore, request a written modification to cover the added [material, labor, equipment, and so forth] required to perform the work as ordered. [Give notice of other factors involved such as delay, disruption, acceleration, overtime, over manning, trade stacking, cumulative impact of multiple changes, and diversion of men or equipment from contract work, material shortages, and so forth.]

Our proposal for the added cost resulting from this change directive is being prepared and will be submitted for your approval as soon as possible. We cannot determine at this time the effect on the contract completion date, or other work under the contract. We assure you that we will do everything we can to minimize those costs and the necessary contract time extension, and will advise when a full analysis has been made.

As ordered, we [are proceeding/have proceeded] at once to [procure materials/ perform the work] so that we can complete this change order at the earliest possible time. In the event you do not approve of such action, please advice immediately so that we may stop this effort and minimize the cost involved.

Your signature at the bottom of this letter will satisfactorily confirm the oral instructions.

Sincerely,

[Name of Project Manager]

[Name of Company]

Confirmation: The above-stated report of our instruction is confirmed.

COMPANY [Name of Company]

BY [Name of Individual Confirming]

TITLE [Title of Individual Confirming]

FILE NO. [Number]

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

Appendix-C FRA Sample Format for Minutes of Meeting
Ethiopian Roads Authority

MINUTES OF SITE MEETING No. #

Project Name:

Project No:

Date and Time:

Venue:

Members Present

Apologies

Copies To

Item No.		Target Date	Action
	<i>Headings must be the same as per the Agenda</i>		
	<i>Use previous minutes as agenda for next meeting</i>		
1.0	Introduction		
1.1			
1.2			
2.0	Mobilisation		
3.0	Site Facilities and Accommodation		
4.0	Health and Safety		
5.0	Public Coordination		

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

Ethiopian Roads Authority

6.0 Programme and Progress

7.0 Information Required

8.0 Quality Management

9.0 Quality Control

10.0 Environmental Management

11.0 Financial Management

12.0 Claims Status

13.0 Other Matters

Date and Time of Next Meeting

Note: Headings to be adjusted for use with other meetings

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

Appendix D	ERA	Sample	Format	for	Monthly	Status	Report
<i>Contract Name</i>						ERA Monthly Status Report	
<i>Contract No</i>						<i>Month Year</i>	

Monthly Status Report

Reporting Period:

To:

Prepared by: **Project Engineer**

Checked by: **Team Leader**

I. Contract Data

Construction Contract Data	
Contract Name	
Funding	
Contracting Authority	Ethiopian Roads Authority
Length (km)	
Type of Contract	<i>Remeasurement, Lump Sum, Design and Build</i>
Construction Type	
Contractor	

Dates	
Notification of Award	
Contract Signing Date	
Commencement Date	
Original Completion Date	
Original Contract Period	
Maintenance Period	
EOT Approved (days)	
Revised Completion Date	
Actual Completion Date	
Delay period (days)	

Financial Data	Foreign Currency	Local Currency
Contract Amount		
Liquidated Damages		
Advance Payments		
Price Adjustment to date		
Interest on Late Payments		

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

Contract Name
Contract No

ERA Monthly Status Report
Month Year

Value of Variations Approved		
Payments to date (incl. advance)		

Guarantees (Construction)	
Performance Guarantee	
Date Received	
Expiry Date	
Amount (Foreign Currency)	
Amount (Local Currency)	
Advance Guarantee	
Date Received	
Expiry Date	
Amount (Foreign Currency)	
Amount (Local Currency)	

II. Planned/ Actual Progress

	Physical Accomplishment									
	F. Y		This Month		This Quarter		Cumulative F.Y.		Total to date	
	%	km	%	km	%	km	%	km	%	km
Plan										
Actual										
Actual/Plan %										

	Financial Accomplishment ('000)									
	F. Y		This Month		This Quarter		Cumulative F.Y.		Total to date	
	%	km	%	km	%	km	%	km	%	km
Plan										
Actual										
Actual/Plan %										

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

Contract Name
Contract No

ERA Monthly Status Report
Month Year

Linear Progress							
Item No.	Description	Unit	This Month		Total to end of <i>Date</i>		
			Plan	Actual	Plan	Actual	Actual / Plan
			Quantity				%
1	Clearing and Grubbing	Ha					
2	Removal of unsuitable material	1000m ³					
3	Cut and borrow to fill	1000m ³					
4	Selected Fill Type #	1000m ³					
5	Selected Fill Type #	1000m ³					
6	Granular sub base	1000m ³					
7	Crushed base	1000m ³					
8	Prime coat	1000kg					
9	DBM	1000m ³					
10	Wearing Course	1000m ²					
	etc						

III. Progress Specific to This Month

IV. Progress to Date

V. Delays/Problems Encountered

VI. Action Taken / Proposed Solutions

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

Contract Name
Contract No

ERA Monthly Status Report
Month Year

VII. Status of Variation Orders

VO No.	Description	Amount of Varied Work		Date of Issue	Status
		Addition as result of VO (ETB)	Reduction as result of VO (ETB)		
VO-1					

VIII. EOT Status and Development

IX. Claims Status

X. Disputes to Date

XI. Key Issues & Remarks

XII. Supervision Contract

Supervision Contract Data	
Funding	
Contracting Authority	Ethiopian Roads Authority
Consultant	

Dates (Supervision)	
Notification of Award	
Contract Signing Date	

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

Contract Name
Contract No

ERA Monthly Status Report
Month Year

Commencement Date	
Original Completion Date	
Original Contract Period	

Financial Data (Supervision)	Foreign Currency	Local Currency
Contract Amount		
Advance payments		
Price Adjustment to date		
Interest on Late Payments		
Payments to date (incl. advance)		

Guarantees (Supervision)	
Advance Guarantee	
Date Received	
Expiry Date	
Amount (Foreign Currency)	
Amount (Local Currency)	

XIII. Financial Report for Consultant

	Financial Accomplishment ('000)							
	This Month		This Quarter		Cumulative F.Y.		Total to date	
	<i>ETB</i>	<i>USD</i>	<i>ETB</i>	<i>USD</i>	<i>ETB</i>	<i>USD</i>	<i>ETB</i>	<i>USD</i>
Actual								

XIV. Status of Insurances and Bonds

XV. Status of Document Submission

Appendix-E ERCC Sample Format for Time Related Claims Document

PROJECT	MAZORIA-DURAME-DURGI-OMO RIVER ROAD PROJECT		
	LOT1:-MAZORIA-DURGI CONTRRACT1:- MAZORIA - HADERO (Km 0+000 - 37+500)		
EMPLOYER	CONSULTANT		CONTRACTOR
ETHIOPIAN ROADS AUTHORITY	BEZA CONSULTING ENGINEERS PLC		ETHIOPIAN ROAD CONSTRUCTION CORPORATION (ERCC)
REQUEST FOR INSPECTION & TEST (RFI & FDT)			
Request date _____	Request No _____	Pay item _____	
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <input type="checkbox"/> 1. Type </div> <div style="text-align: center;"> <input type="checkbox"/> Concrete </div> <div style="text-align: center;"> <input type="checkbox"/> Soil </div> <div style="text-align: center;"> <input type="checkbox"/> vement </div> <div style="text-align: center;"> <input type="checkbox"/> Others </div> </div>			
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <input type="checkbox"/> 2. Placing of testing </div> <div style="text-align: center;"> <input type="checkbox"/> Laboratory </div> <div style="text-align: center;"> <input type="checkbox"/> In-situ </div> <div style="text-align: center;"> <input type="checkbox"/> Other places </div> </div>			
3. Activity description			
4. Request for			
Location	Date and time	Material Source	
1 _____	_____	_____	
2 _____	_____	_____	
Requested by Contractor	Name and signature	Date..... Received for Engineer's representative	
Received for Contractor	Name and signature Date and time	<u>Name & sign</u>	<u>Date and time</u>
Attendance report			
Position	Comment		Sign and

Time Related Claims Documentation for Local Contractors of Central, North and South
Regions of Federal Road Projects

		date
Works inspector	1	
	2	
Surveyor	1	
	2	
Material inspector	1	
	2	
Lab technician	1	
	2	
Structural inspector	1	
	2	
Material Engineer	1	
	2	
ARE	1	
	2	
Remark	<div style="display: flex; justify-content: space-between;"> <div style="width: 15%;"> Approved <input type="checkbox"/> </div> <div style="width: 15%;"></div> <div style="width: 15%;"> Approved as noted <input type="checkbox"/> </div> <div style="width: 15%;"></div> <div style="width: 15%;"> Rejected <input type="checkbox"/> </div> <div style="width: 15%;"></div> </div>	
RE's comment	<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">Name and signature.....</div> <div style="width: 40%;">Date.....</div> </div> </div>	

Ethiopian Construction Works Corporation

***Mazoria - Hadero Upgrading Road Project
Daily Activity Accomplishment Form***

No	Activity Description	Unit	Quantity	Chain age or Station	Equipment Status						Man Power			Material		
					Type	Plate No	Ophre. Hr	Idel Hr	Down Hr	Fuel Consum .	Job Title	No	Working hour	Type	Quantity	Unit

Data Collector

Con. Forman

Site Engineer

Work Execution T/Leader

Project Manager

Badge No

Badge No

Badge No

Badge No

Badge No _____

Signature

Signature

Signature

Signature _____

Signature _____

Appendix-F AMGC Sample Format for Time Related Claims Document

Request for Inspection/Approval/

Concrete Pour

Ethiopian Roads Authority

Contract Number

Request No 015/2015

Contract Name:- Contract 1: Mazoria – Durame Road Project, Km 0+000 – 37+500

Time and Date Inspection required 21-29-08-15 8.00 am
Proposed Time and Date of Concrete pour

Location/ Position 25+200 (at main Camp)

Description
Describe item to be inspected and approved e.g. Culvert ,bridge, retaining wall, etc. and location within structure concrete type and quality
Compressive strength test for 7 days (24+350) & 21+129 slab on

Inspection Checklist
Comment Yes/No/or Not Applicable and provide detailed comments where necessary

Is the formwork And false work adequately fixed in place and all surfaces to line and level. And as specified.

Formwork

False work

Is the steel reinforcement as per specified – line and level. Secure fixing. Correct cover.

Are all fixtures, cutouts in place to line and level and as specified e.g. weep holes ,permanent steel bolts. Joints etc.

Are suitable materials and equipment available for the proposed concrete pour. Is sufficient labour in place . provide lists and comments. yes

Materials	Equipment	Labor	External concrete supply
<u>Asst. material 5.3(20) m</u>			

Approval to proceed YES/NO/

Comments/ Details of correction actions Yes; for 7 days. Remain 28 days. 23/08/15

For Contractor on Submission Name <u>Betlehem Shiferaw</u>	Received on behalf of Resident Engineer Name <u>Betlehem Shiferaw</u>	Approved by Resident Engineer <u>[Signature]</u>
Position <u>Site Engineer</u>	Position	
Signed <u>[Signature]</u>	Signed	
Date and Time <u>23.08.15 8.00 am</u>	Date and Time	Date and Time

Original to be kept by Resident Engineer, copy to be passed to contractor

Form 6QA,22

Rev/3/12

23/08/15

Aster Mengistu General Contractor and Water Works

Hadero - Durgi Road Construction Project

Daily Report Format

Date of Execution:

Reporting Date:

It. No	Activity Description	Station		Unit	Quantity	Remark
		From	To			